

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for coproducing butene oligomers and tert-butyl ethers from isobutenic C₄ streams by

- a) partly oligomerizing the isobutenic C₄ streams over an acidic catalyst to give butene oligomers, and subsequently
- b) etherifying the remaining isobutene with an alcohol under acidic catalysis to give tert-butyl ethers,

~~characterized in that~~ wherein

the etherification is carried out under acid catalysis in stage b) in at least two reaction stages, of which at least the last reaction stage is carried out as a reactive distillation, and the butene oligomers obtained in stage a) are removed before the acid-catalyzed etherification in stage b).

Claim 2 (Currently Amended): The process as claimed in claim 1,

~~characterized in that~~ wherein

the acidic catalyst used in stage a) is an ion exchanger whose protons have partly been exchanged for metal ions of groups 1 to 12 of the Periodic Table.

Claim 3 (Currently Amended): The process as claimed in claim 2,

~~characterized in that~~ wherein

from 1 to 60% of the protons of the ion exchanger used in stage a) have been exchanged for metal ions.

Claim 4 (Currently Amended): The process as claimed in ~~any of claims 1 to 3~~ claim
1,
~~characterized in that~~ wherein
the oligomerization in stage a) is carried out up to an isobutene conversion of from 50
to 95%.

Claim 5 (Currently Amended): The process as claimed in ~~any of claims 1 to 4~~ claim
1,
~~characterized in that~~ wherein
the oligomerization in stage a) is carried out in the presence of a moderator.

Claim 6 (Currently Amended): The process as claimed in claim 5,
~~characterized in that~~ wherein
the moderator used is MTBE, TBA, methanol or water in a molar ratio of from 0.01 to
5 per mole of isobutene.

Claim 7 (Currently Amended): The process as claimed in ~~any of claims 1 to 6~~ claim
1,
~~characterized in that~~ wherein
the alcohol used in stage b) is methanol or ethanol.

Claim 8 (Currently Amended): The process as claimed in ~~any of claims 1 to 7~~ claim
1,
~~characterized in that~~ wherein

the polyunsaturated hydrocarbons contained in the isobutenic C₄ streams are catalytically hydrogenated before the oligomerization in stage a).

Claim 9 (Currently Amended): The process as claimed in claim 8,
~~characterized in that~~ wherein

the polyunsaturated compounds are hydrogenated in at least two reaction stages, of which at least the last reaction stage is carried out in the presence of 0.05 - 100 ppm by weight of CO.

Claim 10 (Currently Amended): The process as claimed in ~~any of claims 1 to 9~~ claim
1,

~~characterized in that~~ wherein

more than 90% of the butene oligomers obtained in stage a) are isobutene oligomers.